

Applic. No. 09/556,662

Amdt. dated February 23, 2004

Reply to Office action of October 21, 2003

Remarks/Arguments:

Reconsideration of the application is requested.

Claims 1-11, 15-29, 31, and 33 remain in the application.

Claim 1 has been amended so as to correct a typographical error. Claims 18 and 19 have been amended to properly depend on claim 15. Claims 12-14 and 32 have been cancelled.

In the second paragraph on page 2 of the above-identified Office action, claim 1 has been objected to because of the following informalities.

More specifically, the Examiner has stated that in claim 32, "claim 30" should be changed to --claim 29--. It is believed that since the Examiner did not comment on claim 1 it is only claim 32 that has been objected to by the Examiner. Making claim 32 dependent on claim 29 would create a claim identical to claim 31. Accordingly, claim 32 has been cancelled, so as to facilitate prosecution of the application. Therefore, the objection to claim 32 by the Examiner is now moot.

It is accordingly believed that the claims meet the requirements of 35 U.S.C. § 112, first and second paragraphs. Should the Examiner find any further objectionable items,

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counsel would appreciate a telephone call during which the matter may be resolved. The above-noted changes to the claims are provided solely for cosmetic or clarificatory reasons. The changes are not provided for overcoming the prior art nor for any reason related to the statutory requirements for a patent.

In the fifth paragraph on page 2 of the Office action, claims 1, 5, 8, 12, and 14 have been rejected as being fully anticipated by Hepburn (U.S. Patent No. 5,771,685) under 35 U.S.C. § 102. Claims 12 and 14 have been cancelled.

As will be explained below, it is believed that the claims were patentable over the cited art in their original form and the claims have, therefore, not been amended to overcome the references.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, *inter alia*:

discharging a heat flow from the exhaust gas stream upstream of the NOx accumulator.

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The Hepburn reference discloses a method and apparatus for making on-board measurements of NO<sub>x</sub> trap sorption (column 1, lines 30-34). A HEGO (Heated Exhaust Gas Oxygen) sensor is used to measure the amount of NO<sub>x</sub> stored on the trap.

The parts of Hepburn cited by the Examiner, namely column 3, line 42 to column 4, line 64 and Figs. 2-4 only disclose the relationship between the specific HEGO-sensor data (the lean to rich switch time) and the amount of NO<sub>x</sub> stored on the NO<sub>x</sub> trap (column 3, lines 42-45). The Hepburn reference discloses an exhaust gas system including a catalytic converter, NO<sub>x</sub> trap and three HEGO sensors, one disposed upstream of the two devices, one disposed downstream of the two devices, and one disposed between the two devices (Fig. 1).

The reference does not show discharging a heat flow from the exhaust gas stream upstream of the NO<sub>x</sub> accumulator, as recited in claim 1 of the instant application. The Hepburn reference discloses an exhaust gas system including a catalytic converter, NO<sub>x</sub> trap and three HEGO sensors, one disposed upstream of the two devices, one disposed downstream of the two devices, and one disposed between the two devices. The reference does not disclose a heat exchanger or other devices for discharging heat from the exhaust flow upstream of the NO<sub>x</sub> accumulator. This is contrary to the invention of the instant

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application as claimed, in which a heat flow is discharged from the exhaust gas stream upstream of the NO<sub>x</sub> accumulator.

In addition, there is no suggestion in Hepburn that a discharge of heat upstream from the NO<sub>x</sub> trap is advantageous or possible. Therefore claim 1 is also not obvious over Hepburn.

Since claim 1 is believed to be allowable, dependent claims 5 and 8 are believed to be allowable as well.

In the fifth paragraph on page 3 of the Office action, claims 6, 9-11, and 13 have been rejected as being obvious over Hepburn (U.S. Patent No. 5,771,685) in view of design choice under 35 U.S.C. § 103. Since claim 1 is believed to be allowable, dependent claims 6 and 9-11 are believed to be allowable as well. Claim 13 has been cancelled.

It is appreciatively noted from page 5 of the Office action, that claims 15-17, 26-29, 31, and 33 are allowed.

It is also appreciatively noted that claims 2-4, 7, 18-25, and 32 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 18 and 19 have been properly made dependent on allowable claim 15. Therefore, claims 18-25 are

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now allowable as well. However, claims 2-4, and 7 have not been amended as indicated by the Examiner, as the claims are believed to be patentable in their existing form.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1 or 15. Claims 1 and 15 are, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent on claims 1 or 15, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 1-11, 15-29, 31, and 33 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel respectfully requests a telephone call so that, if possible, patentable language can be worked out.

If an extension of time for this paper is required, petition for extension is herewith made.

Petition for extension is herewith made. The extension fee for response within a period of one month pursuant to Section

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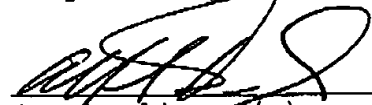
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1.136(a) in the amount of \$110 in accordance with Section 1.17  
is enclosed herewith.

Please charge any other fees which might be due with respect  
to Sections 1.16 and 1.17 to the Deposit Account of Lerner &  
Greenberg P.A., No. 12-1099.

Respectfully submitted,



For Applicant(s)

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AKD:cgm

February 23, 2004

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